

# INDEXA



Fall 2006

[www.indexa.org](http://www.indexa.org)

Issue 75

A non-profit organization for the enhancement of amateur radio, worldwide peace, and friendship  
Daily Information Session — 14.236 MHz @ 23:30z

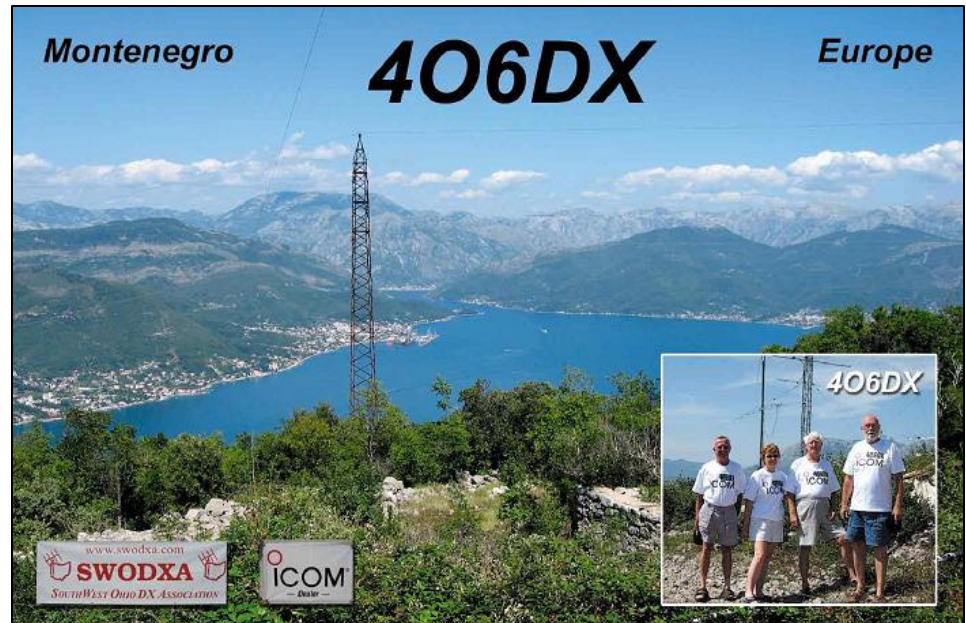
## Montenegro, 4O6DX — Activating a New Entity *by Joe Pater, W8GEX*

**L**ike everyone, I was happy to hear that Montenegro would be designated a new DXCC country and I wanted to be in on the fun of helping put it on the air. I'd been on many DXpeditions, but not to a new country, and it was exciting to think this was a possibility.

I contacted Ranko, YT6A, to find out about his contest station and accommodations. He invited me to join in the festivities planned for the first three weeks. His plans were to include having three locations running multiple stations at once. However, I preferred to be the second group to activate Montenegro, and I opted to have fewer operators at just one location. Ranko agreed to reserve his station, and I proceeded to recruit a team. I had several friends that wanted to go, but couldn't because of work or family obligations. We ended up with a crew of Wayne (K8LEE) who lives near me, John (KP2A) who lives on St. Thomas, U.S.V.I., my wife Janet (W8CAA), and myself.

Janet is a new ham and had been on many DXpeditions with me, but had never operated. What a way to get oriented! As it turned out, propagation was not good, so we didn't get as many pileups as hoped. I guess that was good for a new op. The other three of us were experienced DX operators and very disappointed with the band conditions.

Wayne, Janet, and I left Cincinnati



and connected through London Gatwick en route to Dubrovnik, Croatia where we were to meet John. As luck would have it, John was not there. Because of privacy regulations, it was not easy to get any information out of British Airways, but they did finally tell us he would arrive later in the evening.

This was two days after the changes in carry-on luggage and tightened security. John missed his first connection, and then was given the "opportunity" to see more cities and airports on the way. When it was finally time to land in Dubrovnik, there was a storm rerouting him again. He did finally catch up with us the next day. His luggage didn't! It was three more days before he got

the last piece which included his keyer and computer. Fortunately the well-equipped contest station had everything he needed.

Ranko had arranged for a driver to meet us and take us through Customs and over the border into Montenegro. There we were met by Ranko and Bob N6OX. They took us on to the bottom of the hill for transport up to the contest station. To get up to the station, you take a four-wheel drive vehicle, and it takes about 45 minutes to climb to the top over a rough road. It is a beautiful location on the top of a mountain which overlooks Kotor Bay. No wonder we had good radio reception!

*(Continued on page 2)*

**inside... 2006-2007 INDEXA Election Results**  
**NA Propagation Forecast for Lakshadweep Islands (VU7)**

## Montenegro—Activating a New Entity (Con'd)

(Continued from page 1)

A picture of Kotor Bay was chosen for our QSL card shown on Page 1. I suspect you will concur with our assessment of the beauty of the bay.

We took our own laptops, ICOM Pro III radios, some miscellaneous equipment, and our personal luggage. The equipment on station included a Kenwood TS-775 and a Yaesu FT-1000 Mark V, all with amplifiers, and stack antenna arrays. We used a 2 element SteppIR on 17m that worked great, as did all the stacked antennas. The station, 2000 ft. above the sea, was in an excellent location.



**W8GEX finds great satisfaction in helping to activate a new DXCC entity.**

Boro, YT6ZZ, was our assistant who did everything from drive to cook to take care of radio maintenance. If we had any problem with anything, Boro could fix it. And he gladly climbed the tower more than once to put up wire antennas. We certainly enjoyed his company and appreciated all of his help.

Sky Contest Station is a popular destination for the local hams. Several of them visited during our stay so they could operate for a

while. We certainly enjoyed meeting and working radio with them.

We stayed at the contest station for seven nights, then moved down to Herceg Novi. This is a beautiful tourist town on the Adriatic Sea. We would have liked to have spent more time sightseeing, but we didn't have time in our schedule.

We left John at the airport to head home, while Wayne, Janet and I went on to Dubrovnik for a couple of nights. This was another beautiful town on the Adriatic Sea and a popular destination for tourists. There are a lot of cruise ships that make stops there, and we understood why.

We certainly appreciated everything Ranko did for us. He was a great host. He took care of all of our transportation, accommodations, and food. And, of course, the station was well equipped. All we had to do was show up and start operating!

We very much enjoyed our trip. The area is beautiful and the people very friendly; a place well worth visiting.

## Working VU7 in December 2006

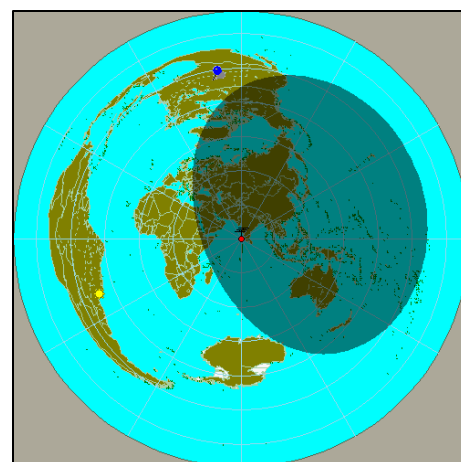
By Carl Luetzelschwab, K9LA

With two Indian organizations planning operations from VU7 in December 2006 (the ARSI group will sign VU7LD and the NIAR group will sign VU7RG), DXers worldwide will have an unprecedented opportunity to work this extremely rare DXCC entity.

The path from VU7 to North America will be tough due to going through the polar areas (over

the northern polar area for short path and over the southern polar area for long path). Figure 1 (page 3) gives the VOACAP predicted median MUF (Maximum Usable Frequency) for both short path and long path to the Midwest of North America (specifically WØ and VE5) in December with a smoothed sunspot number of 8.

The short path MUF during December is fairly low during the entire day. Figure 2, below, shows the short path when the MUF maximizes around 1500



**Figure 2 – Short path illumination in December at 1500 UTC**

The *INDEXA Newsletter* is a quarterly publication of the International DX Association.



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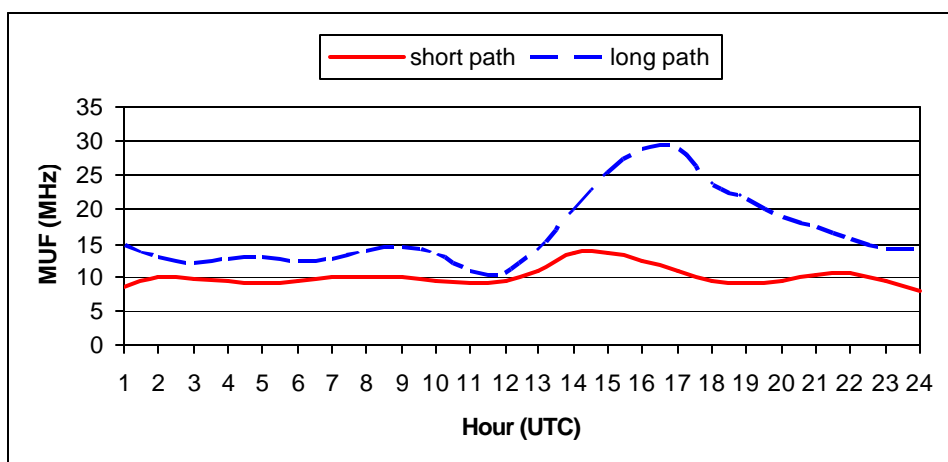
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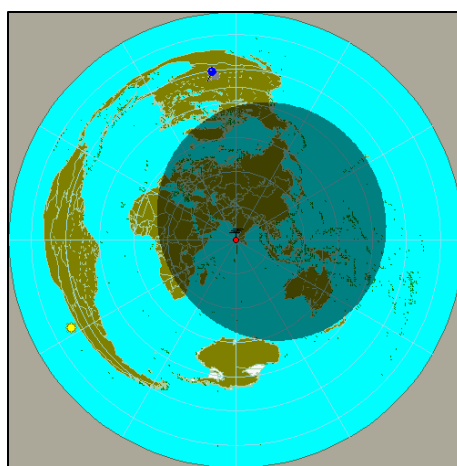


**Figure 1 – MUFs for the VU7-to-Midwest short and long paths**

UTC (from VE3NEA's DX Atlas).

The short path from VU7 (the red dot with the antenna in the center of the map) to the Midwest (the blue pin at the top) is a straight line over the northern polar area. The short path MUF maximizes around 1500 UTC because the Midwest has just come into daylight (Midwest sunrise is around 1345 UTC in mid December) while VU7 is not too far past sunset (VU7 sunset is 1249 UTC in mid December). It is interesting to note that less than half of the short path is in sunlight at any given time during December – in fact only about one sixth of the short path is in sunlight at 1500 UTC when the short path MUF maximizes. In addition to a lack of solar illumination, December 2006 is around solar minimum and the short path stays away from the more robust equatorial ionosphere. Thus it is understandable why the MUF on the short path stays so low.

Long path is another story. Figure 3, in the next column shows the long path when the MUF maximizes around 1700 UTC (also from VE3NEA's DX Atlas).



**Figure 3 – Long path illumination in December at 1700 UTC**

The long path from VU7 (again the red dot with the antenna in the center of the map) to the Midwest (again the blue pin at the top) is a straight line over the southern polar area (Antarctica) and comes up from the south into the Midwest. During December at least half of the long path is in daylight at any given time – at 1700 UTC, when the long path MUF maximizes, about two thirds of the long path is in daylight. In addition to more sunlight, the long path from both ends heads toward the more robust equatorial ionosphere. Thus it is understandable why the MUF on the long path can be so high – even around solar minimum.

But the good news with the MUF on long path must be tempered with signal strength issues. With the VU7-to-Midwest long path almost twice as long as the short path, signal strengths will generally be lower due to more free space path loss and more absorption with more of the long path in sunlight. Thus, in reality the probability of a QSO is a balance between MUF and signal strength.

The easiest way to sort all this out is to use your favorite propagation prediction software to determine when you have the opportunity to work VU7. This has been done with VOACAP to seven geographical areas of North America. The assumptions are:

Transmit power = 200W on 30m, 700W on all other bands

Antenna gain = 5dBi for 30m and 40m, 12dBi for 20m - 10m

Noise environment = quiet rural  
Minimum angle = 1°

Signal-to-Noise Ratio (SNR) = 0dB in a 500Hz bandwidth (CW mode)

Minimum Discernible Signal (MDS) of receiver = -130dBm

Your specific openings may be longer or shorter than the predictions to follow depending on your transmit power, your antennas, your site, and your noise environment. Openings will be shorter for SSB due to needing a higher SNR than what is assumed in these predictions for CW.

Detailed predictions for 160m and 80m are not given. The times of possible propagation on these two bands are determined by the times when the desired path is in (or very near) darkness. These times can be calculated from your

*(Continued on page 4)*



(Continued from page 3)

specific sunrise and sunset times and the sunrise and sunset times at VU7.

Table 1, below, lists all possible SHORT PATH openings from the seven geographical areas in North America to VU7. These openings include openings with a very low probability of having enough ionization and openings with a very low probability of meeting the SNR requirement. All times are UTC.

Table 2, below, lists all possible LONG PATH openings from the seven geographical areas in North America to VU7. These openings include openings with a very low probability of having enough ionization and openings with a very low probability of

meeting the SNR requirement. All times are UTC.

### Highest Probability Openings

Table 3, below, lists the ten hours from each of the seven geographical areas of North America to VU7 that offer the highest probability of a QSO. These are the 'best times' from the previous two tables. All times are UTC. Short path is designated with 'sp' and long path is designated with 'lp'.

As can be seen, long path is likely to play an important role in North America working VU7. I hope to see you in the pileups!

—Carl, K9LA

### **A Note to INDEXA Members**

We are now trying something new in INDEXA and that is to keep you members, with e-Mail capability, up to date on our activities. In the past, our main communication tool has been our quarterly newsletter and this will not change. If members receive the newsletter via the Postal Service then they are not on the E-Mail distribution list.

This time we are alerting you that INDEXA has very recently made generous contributions to four DXpeditions that are happening now or within the next several months. The list below also shows the entities for which INDEXA has provided financial support over the past six years.

(Continued on page 5)

| NA target - SHORT PATH | 160m  | 80m | 40m          | 30m                 | 20m                  | 17m   | 15m   | 12m   | 10m   |
|------------------------|---|-----|--------------|---------------------|----------------------|-------|-------|-------|-------|
| W1, W2, W3, VE1, VE2   | Use your sunrise and sunset times in conjunction with VU7 sunrise (0119Z in mid December) and VU7 sunset (1249Z in mid December) to determine when your path is in darkness. Especially monitor sunrise and sunset times. |     | 12-05        | 02-04, 11-00        | 12-18, 21-23         | 13-16 | 13-15 | 14    | ----- |
| W4                     |   |     | 12-15, 20-03 | 11-23, 02-03        | 12-18, 21-23         | 13-15 | 14    | 14    | ----- |
| W8, W9, VE3, VE4       |   |     | 12-03        | 12-04               | 12-17, 21-23, 02, 04 | 13-16 | 14    | ----- | ----- |
| W5                     |   |     | 11-16, 21-03 | 11-17, 20-23, 01-03 | 13-17, 22            | 14-15 | ----- | ----- | ----- |
| W0, VE5                |   |     | 11-17, 19-03 | 11-03               | 13-17, 21-23, 02     | 14-15 | ----- | ----- | ----- |
| W7, VE6, VE7           |   |     | 10-03        | 11-03               | 16-22, 01-02         | ----- | ----- | ----- | ----- |
| W6                     |   |     | 11-20, 23-02 | 11-13, 15-02        | 11, 15-21, 01-02     | ----- | ----- | ----- | ----- |

**Table 1 – All short path openings**

| NA target - LONG PATH | 160m  | 80m | 40m   | 30m          | 20m              | 17m          | 15m          | 12m   | 10m   |
|-----------------------|---|-----|-------|--------------|------------------|--------------|--------------|-------|-------|
| W1, W2, W3, VE1, VE2  | Use your sunrise and sunset times in conjunction with VU7 sunrise (0119Z in mid December) and VU7 sunset (1249Z in mid December) to determine when your path is in darkness. Especially monitor sunrise and sunset times. |     | ----- | 12           | 12-15, 19-00     | 13-23        | 13-20        | 14-19 | 14-18 |
| W4                    |   |     | ----- | 12-13, 22    | 09, 13-16, 21-03 | 13-00        | 14-21        | 14-19 | 14-18 |
| W8, W9, VE3, VE4      |   |     | ----- | -----        | 13-15, 20-01, 10 | 13-00        | 14-22, 00    | 14-19 | 15-18 |
| W5                    |   |     | 00    | 13-14, 23-01 | 13-16, 21-04     | 14-01        | 14-22, 00-01 | 14-19 | 15-18 |
| W0, VE5               |   |     | ----- | -----        | 10, 13-15, 21-01 | 14-00        | 14-22, 00    | 15-21 | 15-18 |
| W7, VE6, VE7          |   |     | 01    | 13, 23       | 14-18, 21-01     | 15-01        | 16-22        | 16-20 | 17-19 |
| W6                    |   |     | 14    | 14           | 14-17, 22-03     | 15-22, 01-02 | 15-22, 01    | 16-20 | 16-18 |

**Table 2 – All long path openings**

| NA target            | 40m          | 30m   | 20m                 | 17m      | 15m      | 12m      | 10m   |
|----------------------|--------------|-------|---------------------|----------|----------|----------|-------|
| W1, W2, W3, VE1, VE2 | -----        | ----- | sp 13-14, lp 13     | lp 14-15 | lp 14-16 | lp 15-16 | ----- |
| W4                   | -----        | ----- | sp 13-14, lp 13-14  | lp 14-15 | lp 14-16 | lp 15    | ----- |
| W8, W9, VE3, VE4     | -----        | ----- | sp 14, lp 14        | lp 14-16 | lp 15-16 | lp 15-16 | lp 16 |
| W5                   | -----        | sp 14 | sp 14, lp 14, lp 01 | lp 14-16 | lp 15-16 | lp 15    | ----- |
| W0, VE5              | -----        | ----- | -----               | lp 14-16 | lp 15-17 | lp 15-17 | lp 16 |
| W7, VE6, VE7         | sp 17, sp 01 | sp 01 | -----               | lp 16-18 | lp 16-18 | lp 18    | ----- |
| W6                   | sp 16, sp 01 | sp 01 | -----               | lp 15-17 | lp 16-17 | lp 16-17 | ----- |

**Table 3 – Highest probability openings**

(Continued from page 4)

| Current      | 2005        | 2004             |
|--------------|-------------|------------------|
| 3C0M         | Peter I     | Bhutan           |
| XF4DL        | Kure Is.    | Chesterfield Is. |
| VU7RG        | Bhutan      | Somalia          |
| S21EA        | Somalia     | Andaman Is.      |
| 2003         | 2002        | 2001             |
| Marquesas    | Congo       | Syria            |
| Myanmar      | Nauru       | Tomotu           |
| St. Paul Is. | Myanmar     | San Felix        |
| Annobon      | Guinea      |                  |
| Europa       | Chatham Is. |                  |
|              | S. Sudan    |                  |

We are not in the business of being a DX alerting or notification service like QRZ DX or The Daily DX Bulletin, but we are in business to assist financially in making DX possible. We often help DXpeditions get started before any of the Bulletins have information even announcing the operation. **Keep supporting DX by continuing your INDEXA membership or consider a contribution.**

Remember our Daily Information Session on 14.236 at 2330Z provides DX news and QSL service so please drop by when you can.

Good luck with these pending DXpeditions. I hope you add some new band countries to your DXCC list.

—73 Gary, K4MQG  
INDEXA Vice President

(Note: Do you have e-Mail? If you're receiving this newsletter and Gary's letter, above, in hard copy form, you'll get both sooner and in full color if you let us send it to you via e-Mail. Let us know. —Editor)

## Suggestions for DX Pile-ups ... by Uncle DX

1. The DX station operators are in charge of any pile-up.
2. The DX station should make and adhere to their operating rules quietly and respectfully.
3. The DX station should use, when appropriate, call areas and areas of the world for better accuracy, rate and order.
4. The DX station should use split operation and spread stations out, keeping in mind others not in the pile-ups. . . . A must.
5. The DX station should give their call sign at least every 10 minutes and maintain a pattern especially when ending a QSO.
6. The DX station should create a rhythm or timing which maintains a good rate and allows the pile-up to call at the right time.
7. The operators in the pile-up, if not sure of a QSO, should dupe and the DX operator continue not wasting time commenting.
8. The DX station should work those who will create the fastest rate, at least at first, then make an effort to work the weaker stations.
9. No one should lecture on the air.
10. Everyone should always require and give full call signs.
11. Know and practice the gray line.
12. Know the equipment being operated such as the split button, audio levels, keying wave form, etc.
13. NEVER be a "KC Cop"....never.
14. Operators giving spots on a DX Cluster should ensure their accuracy!
15. Keep away from personal, political, and religious comment any time on the air and/or on the DX Cluster. Keep all comments in the true spirit of ham radio whereby ALL ARE EQUAL.
16. Don't rush when giving your call when the DX station is standing by, especially on CW. Time will be lost trying to obtain ALL of the call sign.
17. Don't call the DX station constantly. Get in the rhythm.
18. Let the last station called complete his QSO.
19. Use only the power it takes and figure out what that is!
20. Figure out the DX operator's operating practice for greater success.

***These "suggestions" provided courtesy of QRZ DX and The DX Magazine.***  
***<http://www.dxpub.com>***

Your editor would add one suggestion to Uncle DX's list:  
21. Listen before entering the pileup so you understand the situation. Tune your transceiver and linear amplifier, if applicable, into a dummy load or on a clear frequency away from the DX and pileup. Then jump in and have fun!

## 2006-2007 Election Results

Thank you for taking the time to vote in the recent elections of INDEXA officers and directors for 2006-2007. The results of the election are as follows:

|                      |                         |
|----------------------|-------------------------|
| President:           | Ron Wright, ZL1AMO      |
| Vice President:      | Gary Dixon, K4MQG       |
| Secretary-Treasurer: | Bill Jennings, W4UNP    |
| Director:            | Bob Allphin, K4UEE      |
| Director:            | Nellie de Lazard, XE1CI |

Continuing to serve their previously elected terms as directors are:

|           |                      |
|-----------|----------------------|
| Director: | Franz Langner, DJ9ZB |
| Director: | Richard Grant, W9RG  |

By a vote of the directors, Bob Allphin has been chosen from amongst them to be the Chairman of the Board of Directors.

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